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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,356	02/17/2004	Luis F. Barron	DP-310740	9940
7590 08/16/2005			EXAMINER	
JIMMY L. FUNKE DELPHI TECHNOLOGIES, INC. Legal Staff, Mail Code: 480-410-202 P.O. Box 5052 Troy, MI 48007-5052			DEVORE, PETER T	
			ART UNIT	PAPER NUMBER
			3751	

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/780,356

Applicant(s)

BARRON ET AL.

Examiner

Peter T. deVore

Art Unit

3751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

The indicated allowability of claims 5, 15, and 25 is withdrawn in view of the newly discovered reference(s) to Sudani. Rejections based on the newly cited reference(s) follow.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10, 12, 17, 18, 20, 22, 23, 27, and 28 each recite the limitation "the valve housing". However, antecedent basis for this term is provided by the term "a housing" in claims 10 and 20. The mismatched antecedent basis renders the claims indefinite. In addition, there is insufficient antecedent basis for the "valve seat blocking means" of claim 21.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10, 15-21, and 25-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Sudani.

Regarding claim 10, the Sudani reference discloses a solenoid valve comprising a housing 10, a rod 40, a ball 50, a valve seat 32, a coil 80, and a winding bay 82, and wherein the rod pre-travels as claimed (see column 5, lines 1-3). Regarding claim 15, the valve further comprises a plunger 60 staked to a grooved portion of the rod 40 (see Figure 1). Regarding claim 16, the valve further comprises a stepped portion of smaller diameter (proximate reference number 40 in Figure 1) between two guiding surfaces. Regarding claim 17, the valve further comprises a supply port 102 and a ball retainer rib (rib which supports spring 52). Regarding claim 18, the valve further comprises a control port 104 and an exhaust port 106. Regarding claim 19, see col. 3, lines 47-51. Regarding claims 20 and 21, the Sudani reference discloses a solenoid valve comprising a housing 10, a valve seat 32, seat blocking means/ball 50, actuation means/rod 40, energization means/coil 80, and a winding bay 82, and wherein the actuation means builds up momentum as claimed (see column 5, lines 1-3). Regarding claim 25, the valve further comprises a plunger 60 staked to a grooved portion of the rod 40 (see Figure 1). Regarding claim 26, the valve further comprises a stepped portion of smaller diameter (proximate reference number 40 in Figure 1) between two guiding surfaces. Regarding claim 27, the valve further comprises a supply port 102

and a ball retainer rib (rib which supports spring 52). Regarding claim 28, the valve further comprises a control port 104 and an exhaust port 106. Regarding claim 29, see col. 3, lines 47-51.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 11, 13, 14, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudani.

Regarding claim 1, the Sudani reference discloses a solenoid valve comprising a valve housing 10, a rod 40, a ball 50, a valve seat 32, a coil 80, and a winding bay 82, and wherein the rod is distanced from the ball in the de-energized configuration (see column 5, lines 1-3), but remains silent as to the distance between the rod and the ball. However, it would have been obvious to employ such a distance of between 0.1 and 0.8 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 2336. Regarding claim 5, the valve further comprises a plunger 60 staked to a grooved portion of the rod 40 (see Figure 1). Regarding claim 6, the valve further comprises a stepped portion of smaller diameter (proximate reference number 40 in Figure 1) between two guiding surfaces. Regarding claim 7, the valve

further comprises a supply port 102 and a ball retainer rib (rib which supports spring 52). Regarding claim 8, the valve further comprises a control port 104 and an exhaust port 106. Regarding claim 9, see col. 3, lines 47-51.

Regarding claims 11 and 22, the Sudani reference discloses a valve as discussed supra but remains silent as to the distance between the rod and the ball in the de-energized configuration. However, it would have been obvious to employ such a distance of between 0.1 and 0.8 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 2336

Regarding claims 3, 4, 13, 14, and 24, the Sudani reference discloses a valve as discussed supra and further wherein the rod comprises shaft 40 and pin 60, but remains silent as to the material the pin and shaft are made from. However, it would have been obvious to make the pin from a harder ferromagnetic material and the shaft from a softer non-ferromagnetic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In Re Leshin, 125 USPQ 416.

Claims 2, 12, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudani in view of Wisniewski or Inden.

The Sudani reference discloses a valve as discussed supra, but does not disclose that the valve seat and winding bay are integral. However, the Wisniewski and Inden references disclose similar valves wherein the valve seat and winding bay are integral for simpler construction of the valve. It would have been obvious to modify the

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Sudani valve such that the valve seat and winding bay are integral in view of Wisniewski or Inden for simpler construction of the valve.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter T. deVore whose telephone number is (571) 272-4884. The examiner can normally be reached on Monday to Friday.

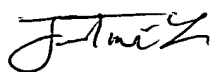
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SUPERVISORY PATENT EXAMINER  
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8/15/05